

MISSOURI DEPARTMENT OF CONSERVATION



August/September 2012

Xplor

adventures in nature

BACK TO SCHOOL

WILD PARENTS
TEACH LITTLE
CRITTERS HOW
TO SURVIVE



SHOOTING STARS



ON THE COVER



RIVER OTTER
by Dave Stonner

- 6** **Camping With Dad**
Dad learns many lessons on his first camping trip.
- 10** **Back to School**
See how these wild parents teach their critters how to survive.

DEPARTMENTS

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Eastern chipmunk

ON THE WEB

Visit xplormo.org for cool videos, sounds, photos, fun facts and more!



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We recycle. You can, too!
Share *Xplor* with friends.

WHAT IS IT?

DON'T KNOW?

Jump to the back cover to find out.



❶ Disguised as poo, I hide in plain view.

❷ In the blink of an eye, I can let my stink fly.

❸ If you think I look vile, just wait a while.

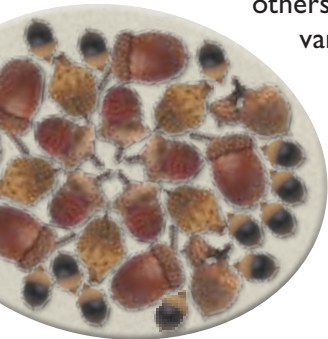
❹ I'm a little squirt now but *giant* when full grown.

YOU discover

White-tailed deer

Make a-corny MOSAIC

Bur oak acorns can grow larger than a golf ball. Pin oak acorns are usually smaller than gum balls. Some acorns are round; others are oval-shaped. Gather acorns in a variety of shapes and sizes to make a-corny mosaic. Once you decide upon a design, glue the acorns by their caps to a piece of cardboard. Place your mosaic under a tree and weight it down with rocks. Hungry chipmunks, squirrels and blue jays will soon stop by for a snack and lend a paw—or beak—to transform your art.



With summer winding down and autumn gearing up, there's plenty to discover outside in August and September. Here are a few ideas to get you started.

Compete in the outdoor OLYMPICS.



By the time you read this, athletes from throughout the world will have gathered in London for the Olympics. Why not gather some friends and host your own Olympics—with a wild twist? Instead of awarding medals to the fastest swimmer or highest jumper, see who can spot the most birds, catch the heaviest fish or capture the biggest bug.

For other event ideas, sprint to xplormo.org/node/18169.

Search for BUCK RUBS!

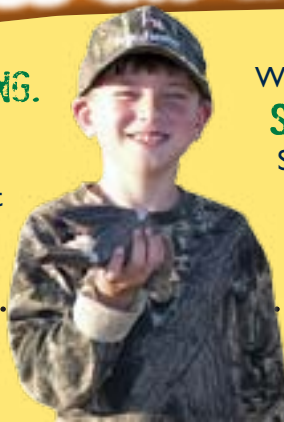
Male white-tailed deer grow a new pair of antlers every year. Throughout spring and summer, newly sprouted antlers are cloaked in a fuzzy covering called velvet. In the fall, bucks scrape off the velvet by rubbing their antlers against small trees and shrubs. Head to the woods in September to search for "buck rubs." If you find some, it's a good bet there's a buck nearby!



Don't miss the chance to Discover Nature at

Go DOVE HUNTING.

Statewide; Season opens September 1. For information, visit mdc.mo.gov/node/3798.



Watch hummingbirds get banded at SUMMER HUMMERS.

Springfield Conservation Nature Center; August 19, 5–6:30 p.m. Register at 417-888-4237.



Bee-friend some insects at the POLLINATION INVESTIGATION.

Missouri Department of Conservation's Kirksville office; August 8, 1–2 p.m. For information, call 660-785-2420.



PEDAL THROUGH NATURE.

The Katy Trail is Missouri's longest and skinniest state park, stretching 237 miles from the town of Machens in the east to Clinton in the west. Late September, when temperatures have cooled and trees are beginning to show spectacular fall color, is a great time to bike a stretch of the Katy. Nearly a dozen conservation areas line the trail and offer places to fish, camp, explore or just make a scenic pit stop. To plan your trip, pedal over to katytrailstatepark.com.

Search the WEB.

Arachnologists (scientists who study spiders) estimate that a typical acre of Missouri is home to between 30,000 and 2.5 million spiders. Most spiders go unnoticed, but in early fall, orb weavers announce their presence by spinning spectacular webs in gardens and near houses. The webs offer the perfect opportunity to watch the eight-legged animals in action. To become a true spider insider, see how many web-builder behaviors you can check off our spider-spotter list at xplormo.org/node/18168.

Garden spider



CANEPOLE a CATFISH.

Cool autumn weather can make catfish hungry. So dig up some worms, grab a cane pole and find a stream. Search for trees that have overturned in the water. Minnows and insects hide in the roots, and hungry catfish lurk nearby hoping for an easy meal. Drop a baited hook upstream of the roots and let the current pull your bait toward the target. If you feel a tug, set the hook and hang on! For more catfishing tips, cast a line to mdc.mo.gov/node/7567.

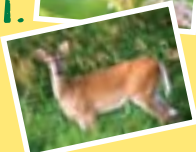
Blue catfish



these fun events.

Take your camera on a **FREEZE FRAME SCAVENGER HUNT.**

Burr Oak Woods Conservation Nature Center; Blue Springs; August 18, 10–11 a.m. For information, call 816-228-3766.



Float the Mississippi during a **DAY ON THE RIVER.**

Cape Girardeau Conservation Nature Center; September 22, 9 a.m.–4 p.m. For information, call 573-290-5218.



MDC
**DISCOVER
nature**

Looking for more ways to have fun outside? Find out about Discover Nature programs in your area at xplormo.org/node/2616.

PREDATOR

VS.

PREY

The struggle to survive isn't always a fair fight. Here's what separates nature's winners from its losers.

Illustration by David Besenger

Earplugs

When a bat lets loose a blast of sound, its ears close for a split second. Otherwise, the squeaks are so loud, they could temporarily deafen the bat.

Sonic Sight

When hunting, a bat produces nearly 4,500 squeaks each second. The squeaks hit nearby objects and bounce back to the bat's ears, painting a picture in the bat's brain of its surroundings.

Flavor Saver

Some tiger moths taste horrible. When these moths hear a bat, they vibrate organs on their tummies called tymbals. The tymbals make clicks to warn the bat: "Don't eat me. I taste yucky."

Tricky Clicks

Other tiger moths taste yummy—at least to hungry bats. To avoid becoming a midnight snack, these moths imitate the tymbal clicks of moths that taste yucky.

Invisibility Cloak

One kind of tiger moth uses tymbal clicks to make a bat's squeaks sound fuzzy and garbled. By jamming the bat's sonar, this tiger moth becomes virtually invisible in total darkness.

Built-In Bug Net

Bats bag bugs in their wing and tail membranes then pass the morsels to their mouths for an inflight snack.

AND THE WINNER IS...

Who knew the night sky was so noisy? In the sonic battle between bat and bug, tymbals give tiger moths the upper hand—uh, wing.

Interesting insects, colorful fish and camouflaged crawdads await discovery just beneath the ripples of a stream. Build an underwater viewer to calm the water and see what you've been missing.

GATHER THESE SUPPLIES

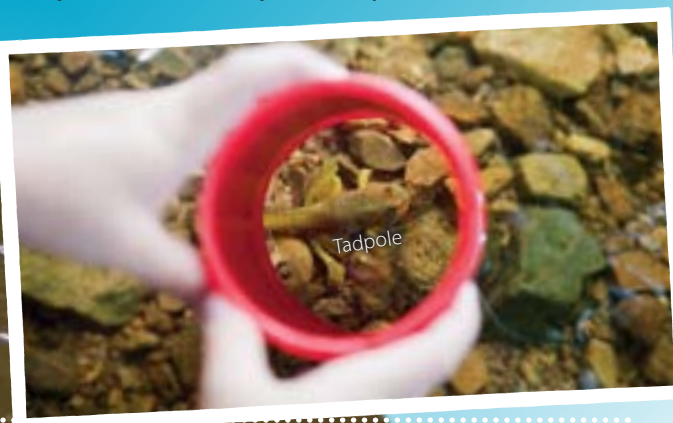
- > A coffee can, potato chip tube or other cylinder-shaped food container
- > Clear plastic wrap
- > Rubber bands
- > Duct tape



How To Make an UNDERWATER VIEWER

BUILD YOUR VIEWER

- > **Ask an adult** to cut out the bottom of a coffee can or other food container. This will make a tube that's open on both ends.
- > **Stretch a piece of plastic wrap** over one end of the tube to form a smooth, tight window. Snap a rubber band around the tube to hold the plastic in place.
- > **Wrap duct tape** around the tube to seal the plastic wrap. It may take several rounds of tape to make the plastic wrap waterproof.
- > **Head to your favorite stream**, lower the window of the viewer into the water, and see how many cool creatures you can spot.



CAMPING

WITH DAD

photos by Noppadol Paothong



Dad blew out the flame on his marshmallow and popped the charred chunk of molten sugar into his mouth. When he quit howling, he looked around the campfire at my brothers and me. “You know,” he said, “we should do this again.”

Flames crackled and danced in the cool night air. A bowl of stars twinkled overhead. Somewhere a whip-poor-will called. Despite all the craziness, it *had* been a fun day. It just had a few rough spots ...



PACKING LIST

- | | | | |
|---------------------------------|--------------------------|--|--------------------------|
| Water | <input type="checkbox"/> | Toilet paper | <input type="checkbox"/> |
| Food | <input type="checkbox"/> | Knife or multi-tool | <input type="checkbox"/> |
| Matches and fire starters | <input type="checkbox"/> | Flashlight | <input type="checkbox"/> |
| Pots, pans and cooking utensils | <input type="checkbox"/> | Map and compass | <input type="checkbox"/> |
| Rain gear | <input type="checkbox"/> | Tent | <input type="checkbox"/> |
| Extra clothes | <input type="checkbox"/> | Sleeping bag and foam pad | <input type="checkbox"/> |
| First-aid kit | <input type="checkbox"/> | Fun stuff | <input type="checkbox"/> |
| Sunscreen and bug spray | <input type="checkbox"/> | (Frisbee, playing cards, fishing gear) | |



We woke that morning to find Dad buzzing around the house, gathering this and that. A spoon from the kitchen. A saw from the garage. The blanket from our dog's bed. He stuffed it all—along with a pair of boxers and his toothbrush—in a trash bag.

“Let's go camping,” he said.

My brothers and I have camped dozens of times with our scout troop. We know plenty of tricks to make camping fun and comfortable. Dad, on the other hand, hadn't slept outdoors a day of his life. It looked like we had some work ahead of us teaching our tricks to Dad.



Practice Makes for a Perfect Pitch

One good trick is to practice setting up your tent at home. That way, you won't hike five miles into the woods—like Dad did—only to discover you're missing a tent pole. Pitching your tent at home gives you a chance to patch holes that might leak or let in bugs. It helps you learn to set your tent up quickly, in case you arrive at camp in the rain or after dark. If Dad had practiced beforehand, maybe we wouldn't have wasted an hour trying to untangle him from the tent poles. That's time a kid just can't get back.

Location, Location, Location

Dad swept his hand grandly around the woods. "Here I will camp," he announced. I shook my head and pointed up. The branch above him was buzzing with bees. Who knew Dad could squeal like that? When he'd calmed down, we told him: Look for dead limbs, bee hives and other hazards. Avoid low areas where water collects when it rains. Pick a flat spot free of pokey things that might make your bed lumpy. On his second try, Dad got it *mostly* right.



What Would Smokey Do?

"Let's build a fire," Dad said. "A big one!" His eyes twinkled as he imagined the five-alarm blaze. Then, before we could stop him, Dad grabbed a handsaw and disappeared into the woods. When we caught up, he was preparing to cut down a majestic oak. After we took away his saw, we offered this advice: Never pull or cut branches from live trees. Instead, collect wood that's already on the ground. Keep your fire small and use an existing fire ring. If there isn't one, build your fire on bare dirt, sand or gravel so it won't catch anything else ablaze.



Get Some Shut-Eye

That night, my brothers and I slept like logs. We know all the tricks for good shut-eye. First, sleep on a foam pad. It's cushiony and will keep you warm and dry. Second, don't worry about night noises. You're camping in nature's living room, after all, and critters make noise. Last, keep food and smelly stuff such as soap out of your tent. Even if the nearest bear lives miles away, "smellables" are an invitation to many furry creatures. Dad must have learned this the hard way, because about midnight I heard him yell, "Come out where I can see you, varmint!" I thought about going to see what had him riled up, but I snuggled back in my sleeping bag and fell asleep instead.

Leave No Trace

Dad sure is an early riser. When I woke at sunrise, he was already up. His eyes were bloodshot and he mumbled a lot. He felt better after breakfast, so we broke camp. When we leave a campsite, we don't want other campers to find anything but footprints. We scour the area for trash, and anything that won't burn, we pack out. We douse the fire with water, then feel for hot coals. When we're sure there are none, we scatter the ashes. On the hike out, Dad said, "You boys taught me a bunch. Think we could camp next weekend?" We told him we'd think about it.

For more Dad-proof camping tips, visit xplormo.org/node/3468.

Back To School

illustrations by
Mark Raithel

words by
Matt Seek

Some little critters are born knowing how to survive. Others need to learn a few things before they're able to make it on their own.



Swimming Lessons

It's hard to believe, but river otters are born not knowing how to swim. It's up to mom to teach them. Otter pups are often scared of water, so mom sometimes must pull them in. She patiently teaches each pup first to float, then swim, then dive. When the lesson is over, the pups return to the den for milk and a well-deserved nap.



Diving Practice

Peregrine falcons perform high-speed dives to snatch other birds in midair for dinner. This requires speed, agility and lightning-quick reflexes. Young peregrines polish these skills with help from their parents. Once chicks learn to fly, parents hand food to them in midflight. When the youngsters get good at this, adults drop injured birds from above for the young peregrines to catch or dive after.

Furry Field Trip

A raccoon's paw has 10 times more nerve endings than a human's hand. But though they're equipped with super-sensitive touch, young raccoons aren't sure how to use it. So, when the kits are about 9 weeks old, mom takes them on a field trip. First stop is usually a pond or stream. There, mom uses her paws to feel for food underwater. The kits watch, and in no time they're plucking up mussels and crayfish for supper.





Possum Bus

You might ride a bus to school. Baby opossums ride their mothers. Mama possums have about 10 babies at a time. The newborns are so tiny, all 10 could fit in a teaspoon. They crawl into their mom's pouch—possums are related to kangaroos—and stay there for about 80 days. When the babies outgrow the pouch, they hitch rides on mom's back, watching and learning as she looks for food.



Duckling Preschool

For ducklings, school begins even before they leave the egg. Mother mallards quack quietly as they incubate their eggs. When the ducklings hatch, they recognize their mother's voice and know that's who they need to follow to the marsh.

Mom teaches her brood to swim by pushing the ducklings in or paddling away until the young follow. Unlike otters, once the ducklings hit water they know just what to do.

Food for Flight

Like most kids, young kingfishers sometimes don't want to go to school. But learning to fly is important, so kingfisher parents resort to tough love. For about three days, mom and pop kingfisher quit bringing food to the young birds. Then the bribery begins. With a fish in its bill, an adult lands on a nearby perch and calls to the young. When the youngsters get hungry enough, they fly to the perch where they're rewarded for their first flight with some tasty sushi.



Hide and Hunt

Red fox pups learn to hunt for grub by playing hide and seek. Fox parents bury extra food near the den. When the pups are out playing, they catch a whiff of something yummy and follow the scent to dig up a snack. When the pups are about 9 weeks old, the parents take them hunting. The pups watch carefully as mom and pop pounce upon rabbits and mice. Then the youngsters practice the same moves on smaller prey such as grasshoppers.





WILD JOBS

ARBORIST RYAN RUSSELL
GOES OUT ON A LIMB TO
KEEP TREES HEALTHY.

Q: WHAT DOES AN ARBORIST DO?

A: Arborists are like tree doctors. When trees get sick, I figure out what's wrong and try to fix the problem. If trees are undernourished, I give them fertilizer. Sometimes trees need dead, broken or diseased branches removed, so I climb up and trim them off.

Q: DOESN'T THAT HARM THE TREE?

A: No, it actually keeps it healthy. Removing branches keeps diseases from spreading and helps the tree heal faster.

Q: WHAT'S THE WORST PART OF YOUR JOB?

A: Trimming pin oaks. They have tons of sharp, pointy branches. Cut limbs get hung up in lower branches, and I usually climb out of a pin oak feeling like a pin cushion.

Q: WHAT'S THE BEST PART OF YOUR JOB?

A: Climbing trees for a living is pretty cool.

Q: COOL, YES. BUT ISN'T IT DANGEROUS?

A: I've gone through lots of training to learn how to do it safely. I always wear a helmet, a climbing harness and other safety gear. I inspect the gear before each use to make sure it's not damaged. And, I always work alongside another arborist to help watch for dangers.

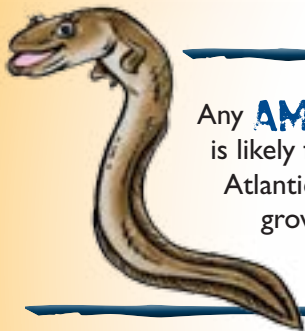
Q: HOW LONG HAVE YOU BEEN CLIMBING TREES?

A: When I was a kid, I learned to shimmy up a hickory sapling until it started to bend then ride it to the ground. I've been climbing trees ever since.

STRANGE, but TRUE!

YOUR GUIDE TO ALL THE
UNUSUAL, UNIQUE,
AND **UNBELIEVABLE**
STUFF THAT GOES ON IN NATURE

Temperature decides whether **SNAPPING TURTLES** will be born boys or girls. Turtle eggs kept around 75 degrees hatch as mostly males. Eggs kept below 70 or above 80 hatch as mostly females.



Any **AMERICAN EEL** found in Missouri is likely female. Baby eels are born in the Atlantic Ocean but swim into rivers to grow. Male eels stay close to coastlines, but females swim far upstream.

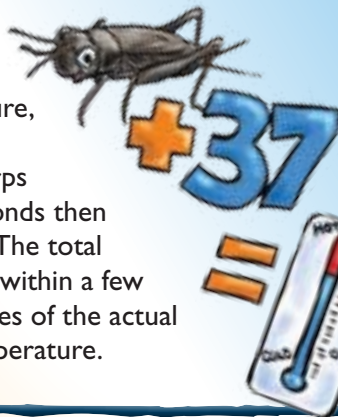
Hey chubby cheeks, don't squeak with a full mouth. **EASTERN CHIPMUNKS** can cram nine acorns in their mouths—four in each cheek and one between their teeth.



CHIMNEY SWIFTS use saliva to glue twigs together for a nest and keep it stuck tight to the inside of a chimney. Now that's some sticky spit!

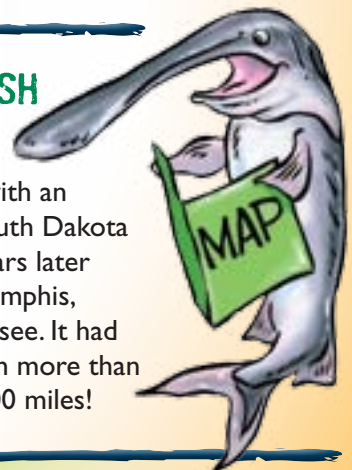
Who needs a thermometer when you have a **CRICKET** around? To tell the temperature, just count how many times a

cricket chirps in 15 seconds then add 37. The total will be within a few degrees of the actual temperature.



When an **AMERICAN WHITE PELICAN** wishes for fishes, it plunges its beak underwater like a dip net. In a single scoop, the brawny-beaked bird can gather 3 gallons of water—and several unlucky fish.

When a **PADDLEFISH** goes for a swim, it really goes for a swim. A paddlefish marked with an identification tag in South Dakota was found years later near Memphis, Tennessee. It had swum more than 1,200 miles!



Before unleashing its funky fury, a **SPOTTED SKUNK** often does a handstand and walks on its front paws with its tail held high. Don't say you weren't warned.

XPLOR MOR

LET'S
PLAY

MIGRATION MARATHON

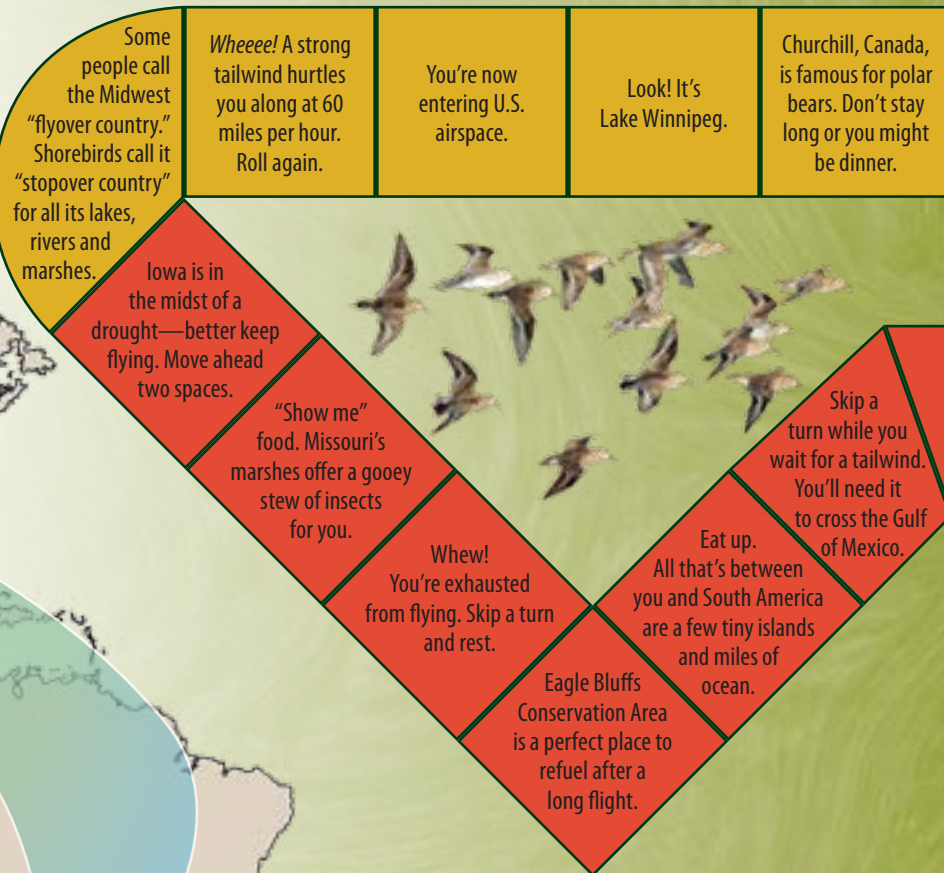


MARATHON BIRDS

Pectoral sandpipers chase summer from one end of Earth to the other. In July, they nest in the Arctic. By November, they've hopscotched from mudflat to marsh, bog to beach all the way to South America. During their journey, sandpipers dodge predators, dangerous weather and destroyed habitats. They love to bury their beaks in mud—the greener and gooier, the better—to gobble insects, worms and other animals. The little birds don't know what will happen from one moment to the next, what adventures a new day might bring. In that way, they're a lot like us.

Summer
nesting
range

Wintering
range



HOW TO PLAY THE GAME

Gather three pennies and an assortment of small objects to use as tokens. Place a token for each player on the square marked "start." Take turns tossing the pennies, counting how many land heads up, and moving your token forward that many spaces. Don't forget to read what's printed on the squares. The first player to the finish wins.

RE

START

FINISH



Northern Canada is full of bogs and bugs. It's like a 500-mile-long buffet.

Notice a chill in the air? Maybe it's time to fly south.

An arctic fox ate your eggs, so you get to migrate early. Fly ahead two squares.

Way to go! Against all odds, you made it back to the nesting grounds.

After traveling more than 18,000 miles, you're almost back where you started.

What's that streaking by? Oh, Canada.

Trees grow scarce the farther north you fly.

Must. Keep. Flying.

Minnesota is known as "The Land of 10,000 Lakes." You know it's a great place for a bite to eat.

A strong thunderstorm blows you off course. Skip a turn.

Spring floods have turned Iowa's corn fields into insect-rich puddles. Eat up, then roll again.

A brisk north wind blows you back one square.

You spend a week stuffing your beak at Fountain Grove Conservation Area. Double your next roll.

You spend a week stuffing your beak at Duck Creek Conservation Area. Double your next roll.

Welcome back to Missouri!

April showers bring May mudflats. Eat up, then roll again.

Gross! An oil spill has turned Texas' beaches black. It's not easy being greasy, so fly back one square.

Fat is where it's at. You start packing on weight to fuel migration and nesting.

Whew! You're tired of flying. Skip a turn and rest a bit.

Hola little bird. Bienvenidos a Mexico.

A favorite wetland was drained to build condos. There's nowhere to stop, so fly ahead two squares.

You were scared quite a lot by a hungry ocelot (a small, bird-eating cat). Skip a turn.

What's that big ditch? Why, it's the Panama Canal.

Too bad you don't drink coffee. There's plenty growing below you in Colombia.

Time flies, and so must you. Move ahead two squares.

Time flies, and so must you. Move ahead two squares.

Time flies, and so must you. Move ahead three squares.

While it's winter in North America, it's summer here in South America.

Four months in Argentina is the longest you ever stay in one place.

Congratulations! You made it to the wintering grounds.

It's the rainy season in the Amazon, and wetlands abound. Roll again.

Look at all that green down there. You must be over the rainforest.

Yuck! The insects you ate were coated in pesticides. Skip a turn while your tummy heals.

What's that you spy with your little eye? Why, it's Paraguay.

After flying 24 hours nonstop, you're pooped. Rest a turn on a South American beach.

Hurricane Gabe blows you off course. Go back one square.

The Gulf of Mexico doesn't look big on a map, but try flying across it. Just. Keep. Flapping.

Look out! A hungry peregrine falcon is swooping at you. Hit the deck and skip a turn.

You'd really like to rest on this island, but the tourists are *Ja-maican* you crazy.



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FREE TO MISSOURI HOUSEHOLDS

ANSWER TO

WHAT IS IT?

FROM
PAGE 1



Giant swallowtails are Missouri's largest butterflies. They start life as caterpillars that look like bird droppings. Looking yucky helps the caterpillar avoid being eaten. If a bird figures out the disguise, the caterpillar waves a forked organ that resembles a snake's tongue. If that doesn't scare away the bird, the caterpillar sprays a stinky fluid.